

SOUTHERN CALIFORNIA
EDISON

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Gary L. Schoonyan
Director
San Francisco Office

February 17, 2005

California Energy Commission
Dockets Office
Attn: Dockets No. 04-IEP-1F
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Dear Commission:

Re: Southern California Edison's Comments Regarding the "Assessment of Reliability and Operational Issues for Integration of Renewable Generation"

Pursuant to the Commission's 2005 Integrated Energy Policy Report Committee's Consultant Report titled, "Assessment of Reliability and Operational Issues for Integration of Renewable Generation," and the questions contained within the Agenda for the February 3 workshop, Southern California Edison would like to take this opportunity to provide the enclosed comments and responses.

We would like to also commend the CEC for embarking on this needed and timely effort. In order to collectively fulfill the State's aggressive renewable vision, we need to understand all the operational implications associated with integrating significant amounts of non-dispatchable and intermittent resources in a safe, reliable and efficient manner. Proceeding in such a way will only enhance the likelihood of reaching our goals in a timely fashion, while benefiting consumers.

If you have any questions regarding these comments, please call me at (916) 441-4114.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Schoonyan'.

Gary Schoonyan

Enclosure

cc: Commissioner John L. Geesman
Commissioner James D. Boyd
Commissioner Jackalyne Pfannenstiel

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SCE's Comments on the Consultant Report Titled "Assessment of Reliability and Operational Issues for Integration of Renewable Generation".

The list of issues that have been identified are accurate and the study appears to be headed in the right direction. To the extent there are operational, planning and interconnection concerns, we believe they need to be addressed sooner rather than later, so that effective methods and approaches can be developed and implemented to fulfill the State's aggressive renewable objectives, without jeopardizing the quality, reliability, and cost of the power Californians use.

Along these lines, there was one key fact that appears to have gotten lost in the discussion. Given that the majority of renewable and wind potential is located in or near SCEs service territory, coupled with the desire to significantly increase renewable resources, there is a high likelihood that SCE will be required to integrate levels of intermittent and non-dispatchable resources far in excess of our own obligations (see following page). As such, the integration issues addressed by the study will likely be greatly amplified for SCE compared to the State's other electric systems. This has become increasingly relevant given the CPUC's July 8, 2004 Decision directing local utilities to assume a key role in providing local area reliability, rather than relying solely on the ISO. As such, the additional burdens associated with integrating much of the State's renewable resources, could fall to SCE.

There are, however, ways to mitigate, including having the other major utilities construct transmission to these area of high renewable potential. SDG&E has already indicated that they are considering a 500kV line to the Imperial Valley in 2010 to access geothermal power. PGandE could likewise construct 500kV facilities to the Tehachapi area, which would not only provide PGandE with direct access to a major source of wind potential, but also provide the State with additional infrastructure to help mitigate the Z-26 congestion concerns, providing those facilities were to interconnect with SCE's proposed 500kV Antelope facilities. In fact, LADWP could also access this region.

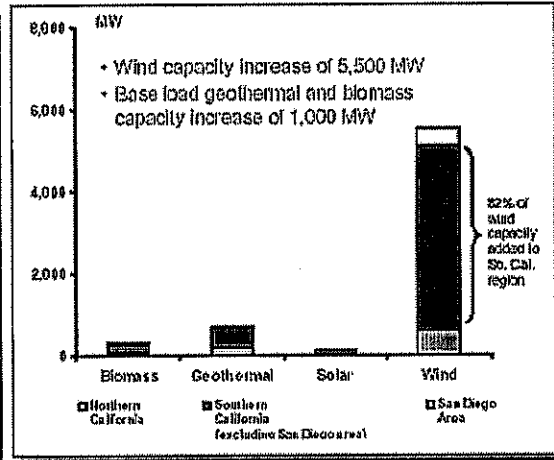
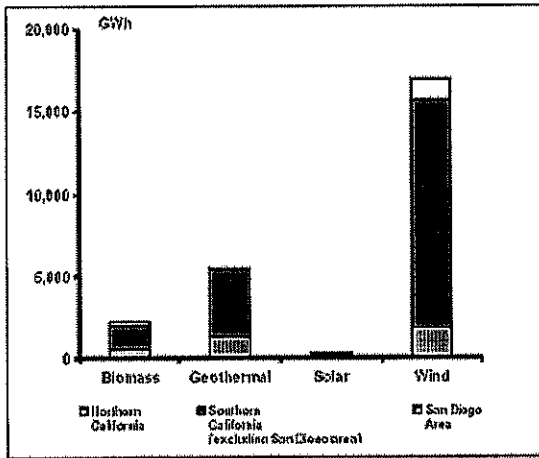
Scenario for renewable development by technology and region

Accelerated Incremental RPS Requirements

Year 2010

Energy

Capacity



Notes:

Northern California = PG&E and small utilities in N. California
Southern California = SCE and small utilities in S. California (excluding San Diego area)
San Diego Area = SDG&E and Escondido utilities



Secondly, several participants commented that "this process should not force wind resources to resolve the existing problems with the systems as a whole" SCE does not believe that the study is requiring the new renewable resources to correct the problems associated with the system. However, given the anticipated large increase in these non-dispatchable and intermittent resources, we do need to address the system reliability and operational issues, along with methods to accommodate or correct any adverse impacts.

SCE also believes the study should look at the operational issues associated with other types of renewable resources as they may encompass different integration issues and remedies.

Finally, there was a comment suggesting that fluctuations in wind don't approach the scheduling changes associated with DWR contracts, and as such, there shouldn't be an integration concern. This simply isn't true. There are substantial differences in reliability and operational integration associated with DWR's known hourly schedule changes which occur at a specified time and ramp period, as compared to the unpredictable and instantaneous changes related to intermittent resources. The fact that the CEC assumes little capacity value for wind for resource adequacy purposes, thus requiring additional reserves, should not go unnoticed.

Additional Questions for Stakeholder Panel

1. Will the retirement of conventional gas fired units and the growing percentage in the generation mix of gas fired Combined Cycle Gas Turbine units, which have little or no ability for system regulation, have a major impact on the state's ability to effectively integrate renewable resources? If so, how?

SCE Response: SCE has not performed an assessment to determine the potential impact of the retirement of gas fired units on system regulation. In general, to the extent the supply of regulating resources decreases, it is likely that the price for regulation services would increase. In addition, a significant increase in the amount of intermittent resources like wind generation will increase the demand for regulation services.

2. In the case of the California Independent System Operator control area, who is responsible and what is the process to assure that it has an adequate resource mix, with the necessary attributes, to meet the control area's ancillary service requirements?

SCE Response: The CAISO has the responsibility to ensure that sufficient resources are dispatched to meet ancillary service requirements for its control area. The CAISO operates a day-ahead ancillary services market to ensure sufficient ancillary services are available. Resources that provide ancillary services to the CAISO must meet minimum WECC operating criteria (e.g. non-spinning reserve must be available within 10 minutes). The CAISO is not responsible for ensuring there is a particular resource mix (e.g. certain percentage of gas-fired units). Currently there is not a requirement for an entity to ensure that the CAISO control area has a given resource mix to meet ancillary service requirements.

3. What steps are needed to assure that California customers get the full benefit (e.g., deliverability and integration) of the renewable resources that are connected to the grid?

SCE Response: Deliverability of renewable resources is addressed through the generator interconnection studies. Under FERC policy, generators are responsible for generator interconnection facilities (including the line from the plant to the transmission grid or "gen-tie") and any transmission network upgrades to make the generation deliverable. Since these upgrades can be costly, some renewable resources are not able to obtain funding for the upgrades. FERC policy does not permit transmission utilities to recover the cost of gen-ties in transmission rates. SCE also needs CAISO approval of transmission network upgrades to enable cost recovery through transmission rates. SCE has requested FERC to create a new category of transmission upgrade – a "trunk line" that would connect wind resources to the

transmission network – and asked that FERC permit recovery of such costs in transmission rates as a way to facilitate needed expansion to accommodate renewable generation. In addition, SCE is working with the CAISO to gain their approval of transmission network upgrades to accommodate additional wind generation in the Tehachapi area.

4. What do California and others in the Western Electricity Coordinating Council need to do to maintain existing transmission path ratings that could be impacted as a result of significant changes in the region's generation resource mix (e.g., addition of baseload resources with limited or no governor response)?

SCE Response: The CPUC's resource adequacy requirement is intended to be the mechanism through which sufficient resources are procured to allow the CAISO to reliably operate the grid. Through the CPUC's resource adequacy workshop process, criteria and procedures are being developed to enable the CAISO to have sufficient resources in its control area to reliably operate the grid. The CAISO is also redesigning its market to better align the market with reliable grid operations. Stakeholder participation in the CPUC and CAISO efforts, in addition to the WECC transmission path rating process, is vital to ensure impacts of generation resource mix are fully considered.